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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/690,626	10/23/2003	Robert J. Small	060937-217-US	5914

7590 01/03/2008  
MORGAN, LEWIS & BOCKIUS LLP  
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WASHINGTON, DC 20004

EXAMINER
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CHEN, KIN CHAN

ART UNIT	PAPER NUMBER
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1792

MAIL DATE	DELIVERY MODE
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01/03/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/690,626

Applicant(s)

SMALL ET AL.

Examiner

Kin-Chan Chen

Art Unit

1792

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 18 October 2007.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 2-7, 11, 12, 14, 15, 22 and 25-28 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 2-7, 11, 12, 14, 15, 22 and 25-28 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on October 18, 2007 has been entered.

The examiner notes that claim 8 should be "withdrawn" (see applicant's response on April 30, 2007). As such, claims 2-7, 11,12,14,15,22, and 25-28 are examined in the office action.

### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 22 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 22 recites the limitation "the chelators". There is insufficient antecedent basis for this limitation in the claim.

Claims 2-7, 11,12,14, and 25-28 rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

In claim 14, "chelator compounds do not include phosphorus –containing functional groups" is new matter because it is not supported in the specification.

### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ueda et al. (US 2003/0017785; hereinafter "Ueda") in view of Wieserman et al. (US 4,904,634).

A preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or sets forth the intended use of a structure. Therefore, the preamble in the claims reciting polishing, etching, and/or residue

removing (or chemical mechanical polishing) is treated as a statement of intended use for a slurry composition and not as a limitation.

In a method and composition for polishing, Ueda teaches that a polishing slurry may comprise a polishing accelerator [0031], a diluent, an abrasive material, oxidizer and plurality of chelating particles that are insoluble in the diluent. The chelating particles may comprise a particle and a plurality of chelator compounds attached to the surface. The chelator compounds may be esters or ethers. The chelating particles have a net negative zeta potential. See [0008], [0018], [0023], [0027], [0031], [0033], [0039].

Unlike the claimed invention, Ueda does not disclose that the chelating compounds may be attached to a spacer, which is different than the chelating compounds and different than the particle. Wieserman teaches that the active material may be used as spacer molecules (col. 4, lines 4-5). Wieserman also teaches that it may be applied for metal chelating agent (col. 4, line 35). The spacer may be an organic molecule comprising a monomer or oligomer. Col. 3, lines 55-60; col. 4, lines 20-21, 35-40; col. 6, lines 50-65. Hence, it would have been obvious to one with ordinary skill in the art to use the spacer as disclosed by Wieserman in the composition of Ueda because Wieserman teaches that it may be used as a spacer and for metal chelating agent application. Furthermore, since same type of material is used (e.g., the spacer may be an organic molecule comprising a monomer or oligomer, col. 4, lines 35-40; col. 6, lines 50-65), hence, it would have been obvious to one with ordinary skill in the art that it would have same function and effect (such as "a space", attached by a covalent bond to the chelator compound) as instantly claimed.

Claim 15 specifies that at least a portion of the functional groups is no further than about 7 angstroms from another functional group. Since the compound is used as a chelating agent, it is expected that the distance between two functional groups are adjusted so as to efficiently chelate the metallic residues depending on the product requirement, therefore, it is merely a matter of choice of design depending on the product requirement.

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

- (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ueda et al. (US 2003/0017785; hereinafter "Ueda") in view of Wieserman et al. (US 4,904,634) as applied to claim 15 above, and further in view of Obanawa et al. (US 4,732,887).

Unlike the claimed invention, the combined Ueda and Wieserman does not teach the chelating particle may comprise a plurality of chelator compounds such as sulfonic acid group recited in instant claim. In a method for forming composite chelating particles, Obanawa teaches that the chelating particle may comprise said plurality of chelator compounds and it can advantageously be used as an adsorbent. See abstract; col. 4, lines 23-30; col. 9, lines 62-68; col. 10, lines 1-22; col. 11, lines 23-45. Hence, it would have been obvious to one with ordinary skill in the art to modify the combined

Ueda and Wieserman by using the composite chelating particles as taught by Obanawa in order to efficiently chelate (or adsorb) the metallic residues.

Dependent claim 22 differs from the combined prior art by specifying well-known features (such as chelating compound having at least three sulfonic acid groups) to the art of polishing and wet etching, the examiner takes official notice. It is the examiner's position that a person having ordinary skill in the art at the time of the claimed invention would have found it obvious to modify the combined prior art by adding any of same well-known features to same in order to efficiently chelate the metallic residues with a reasonable expectation of success. It is noted that applicant did not traverse the aforementioned conventionality (e.g., well-known features or common knowledge), which have been stated in the previous office action (March 6, 2006), MPEP 2144.03.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kin-Chan Chen whose telephone number is (571) 272-1461. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nadine Norton can be reached on (571) 272-1465. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For

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more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

*December 27, 2007*

*K. C. Chen*

Kin-Chan Chen  
Primary Examiner  
Art Unit 1792